UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,966	02/27/2004	Arie Johannes de Heer	A de Heer 7-2-2-1 (LCNT/1	9197.

46363   7590   05/21/2007

PATTERSON & SHERIDAN, LLP/
LUCENT TECHNOLOGIES, INC
595 SHREWSBURY AVENUE
SHREWSBURY, NJ 07702

EXAMINER
STEELMAN, MARY J

ART UNIT	PAPER NUMBER
2191	

MAIL DATE	DELIVERY MODE
05/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.

10/789,966</td><td>Applicant(s)

DE HEER ET AL.</td></tr>
<tr><td>Examiner

MARY STEELMAN</td><td>Art Unit

2191</td><td></td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 February 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-28</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-28</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>27 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>02/27/2004</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-28 are pending.

Claim Objections

2.   Claim 28 recites, "The apparatus of claim 23...", should be –The apparatus of claim

28...--

Information Disclosure Statement

3.   IDS received 02/27/2004 has been considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless
> –(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-9, 12-22, and 25-28 are rejected under 35 U.S.C. 102(e) as being anticipated

by US Patent 6,813,250 B1 to Fine et al.

Per claims 1, 14, and 27:

A method for upgrading software in a first bridge operating in a first state in a network

containing a plurality of bridges, the first bridge and one or more of the second bridges forming

part of a VLAN, the method comprising:

Fine: FIGs. 1 & 2 Col. 6: 16, switches 112 – 121 (bridges)

Col. 6: 40-41, VLANs

a) sending notification to one or more second bridges that the first bridge is scheduled for

upgrading thereby disturbing the first state of operation;

Fine" FIG. 4A, state machine & 4B   Col. 7: 11-15, devices may learn of any re-configuration of

the network…including…changing the parameters of an existing VLAN   Col. 18: 14-18,

hibernates in the disassociated state and the switch is prevented from forwarding any tagged data

messages

b) suspending VLAN registration information in the one or more second bridges while upgrading

the first bridge;

Fine:" Col. 18: 9, disassociated state, wait state…   Col. 18: 29-36, In the wait state 412, all

ports associated with the given VLAN designation are still blocked from forwarding

messages…The purpose of the wait state 412 is to ensure that the new association of the given

VLAN to a single shared spanning tree is learned by all

c) restoring the first state of the first bridge;

Fine: Col. 18: 50-55, transitions to the associated state 313…VLAN designation is associated

with a single shared spanning tree and the switch is permitted to forward messages

d) sending notification to the one or more second bridges of the network that the upgrading of

the first bridge has been completed.

Fine: Col. 18: 50-55, switch is permitted to forward messages   Col. 18: 63 – col. 19: 4, for

messages…to be forwarded out a given port…must be in the associated state 414…port itself

must be in the forwarding state as defined by the spanning tree algorithm…

Per claims 2, and 15:

-sending notification further comprises the first bridge sending a GVRP message.

Fine : Col. 3: 33-37, IEEE 802.1Q , virtually segregated network groups, spanning trees Col. 7:

6, GVRP protocol

Per claims 3, 13, 16, and 26:

-the GVRP message uses a customizable attribute event under IEEE802.1D-1998.

Fine: Col. 5: 18, a list of the associated secondary VLANs & shared spanning trees Col. 7: 14,

changing parameters…the current association of VLAN designations may be quickly propagated

to all intermediate devices.

Per claims 4 and 17:

-once the notification has been sent to one or more second bridges in the network, said one or

more second bridges do not expect additional messages from the first bridge subsequent to

notification.

Fine: Col. 3: 64 – col. 4: 2   Col. 5: 32-37, association table organized by VLAN

designation...associated with none or more than one shared spanning tree, then the state machine

engine enters the disassociated state and no data frames ...are forwarded (do not expect

additional messages)

Per claims 5 and 18:

-suspending VLAN registration information comprises suspending the expiration of "Leave All"

timers during the upgrading at the first bridge.

Fine: Col. 12: 20-27, transition from blocked mode to the forwarding mode via the listening and

learning states in accordance with the spanning tree algorithm

Per claims 6 and 19:

-suspending VLAN registration information comprises suspending a predetermined period of

time for removing VLAN registration membership until after the first bridge is upgraded.

Fine: Col. 5: 42-47, enters a wait state   Col. 8: 25-54, shared spanning tree state machine engine

and spanning tree state machine engine...coupled to an association table...associated with a

VLAN designation...these cells contain information relating to the shared spanning tree

protocol...coupled to a filtering database...state machine engines preferable comprise

programmable processing elements containing software programs pertaining to the methods

executable by the processing elements...The state machine engines preferably cooperate to

define a plurality of shared spanning trees each of which defines an active topology for one or

more VLAN designations.

Per claims 7, 20, and 28:

-restoring the first state of the first bridge further comprises synchronizing GVRP protocol to a

VLAN registration table preserved in the first bridge during the upgrade. / restoring a state of

the first bridge further comprises synchronizing GVRP protocol to a current VLAN membership

tables.

Fine: Col. 12: 24-27, a single active topology (i.e., "a shared spanning tree") is defined Col. 12:

45-48, data frames tagged with primary VLAN designations may be forwarded through the

network, since a corresponding active topology has been defined Col. 12: 64-67, start

formulating SST-PDUs for transmission out those port Col. 14: 50-51, Engine 240 (shared

spanning tree engine) then proceeds to enter this information into its association table 244.

Per claims 8 and 21:

-a port of the first bridge is dynamically configured for a certain VLAN and is registered as a

member of that VLAN, the synchronizing results in a corresponding Registrar state machine

assuming an In (IN) state.

Fine: Col. 8: 28, SST engine 240 Col. 14: 50-51, Engine 240 then proceeds to enter this

information into its association table 144 Col. 15: 38-67, timers used to synch association tables

Per claims 9 and 22:

-a port of the first bridge is dynamically configured for a certain VLAN and is not registered as a

member of that VLAN, synchronizing results in a corresponding Registrar state machine

assuming an Empty (MT) state.

Fine: Col. 14: 53-54, If an entry does not exist (is not registered), it is created by engine 240.

Per claims 12 and 25:

-sending notification to one or more second bridges that the upgrading of the first bridge has

been completed comprises sending a normal GVRP message to one or more frozen ports of said

one or more second bridges.

Fine: Col. 9: 67 – col. 10: 2, These fields specify respective destination and source port interface

circuitry (send to ports when ready).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claims 10, 11. 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

US Patent 6,813,250 B1 to Fine et al., in view of US Patent Application Publication

2005/0080912 A1 to Finn, and further in view of ANSI / IEEE Std 802.1D, 1998 Edition.

Per claims 10, 11, 23, and 24:

Fine failed to provide explicit details regarding:

-for a certain port and VLAN, the corresponding Applicant state machine assumes a Very

Anxious Active Member state (VA), if at least one Registrar state machine for this VLAN

associated to another active port of the same node is in an IN state. (state is consistent)

-for a certain port and VLAN, the corresponding Applicant state machine assumes a Very ·

Anxious Observer state (VO), if no Registrar state machine for this VLAN associated to another

active port of the same node is in an IN state. (state is not consistent)

However Finn disclosed [0014-0015], the 802.1D 1998 edition of the IEEE Std. A framework

that allows participants to make and withdraw declarations for generic attributes. Other network

participants register the parameter values of the specified attribute at the port on which the

declaration was received. The GID component consists of a set of state machines that define the

current registration and declaration state for all attribute values.

[0016], In order to exchange information among the GARP participants disposed within a given

intermediate device, a separate component, called the GARP Information Propagation (GIP)

component, is used. The GIP component operates over a GIP context that is established at the

intermediate device and defines the ports that are to be included in the given context...a GIP

context may consist of the ports that belong to the active topology (i.e., all ports in the

forwarding spanning tree state). {0068], Event Code Table, [0069], IN event, [0078] Appplicant

State Machine / VA / VO.

See ANSI/IEEE Std 802.1d, 1998 Edition   Part 3: Media Access Control (MAC) Bridges for terms defined for Very Anxious Active Member state (VA) and Very Anxious Observer state (VO) and IN state.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Fine, using the teachings of Finn and ANSI/IEEE Std 802.1D, 1998 Edition, because Fine associated VLAN designations to shared spanning treed, defining a separate forwarding topology for each VLAN (Fine: Col. 4: 3). Finn disclosed a need for [0020], effieiently conveying large amounts of VLAN membership information across computer networks. Finn disclosed [0021] a plurality of state machines to track the registration state of all of the VLANs of which the port has been made aware.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached at (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned: 571-273-8300.
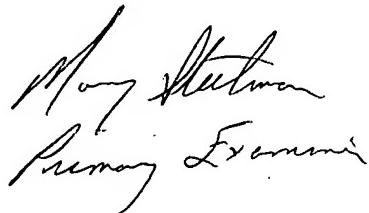
Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary Steelman

04/19/2007